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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,957	08/07/2003	Shiroshi Kanemitsu	S003-5081	1218

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EXAMINER

ANDREA, BRIAN K

ART UNIT PAPER NUMBER

3662

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/635,957

Applicant(s)

KANEMITSU ET AL. m

Examiner

Brian K Andrea

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07 August 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,760,896 to Suzuki (hereinafter, "Suzuki").

Suzuki teaches an angle detecting apparatus comprising: one or more line-type passive range-finding devices for performing a range-finding operation (see column 1, lines 11-12 and figure 22), each line-type passive range-finding device having a pair of lenses spaced apart from each other by a baseline length (see column 14, lines 20-22), a line sensor disposed behind the lenses so that a pair of images of an object are focused by the respective lenses onto the line sensor (see column 14, lines 5-8; additionally, the sensors are arranged perpendicularly – see figure 22), and an operating section for performing the range-finding operation in a plurality of mutually different directions on the basis of an output of the line sensor; and an inclination-angle computing section for computing an inclination angle of the object relative to a direction of the baseline length on the basis of an output of the line-type passive range-finding device (see column 2, lines 39-49).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suzuki.

It is very well known in the art to calculate the distance to an object, when using a rangefinder, to calculate the distance from the lens of the rangefinder to the object. While Suzuki is silent on this, it is possible to say that Suzuki is inherently using the lenses for the point from which measurements are made in each of the different directions because the lenses are positioned at the outside of the housing of the rangefinder. If not inherent, the calculation of the distance from the lenses to the object in each of the different directions would have been obvious.

5. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of U.S. Patent No. 5,870,178 to Egawa.

Suzuki does not teach the projection of any light for the passive distance measurement. Egawa, however, teaches the projection of an image onto an object (could be any object – a screen, wall, etc.) so that the object may be measured passively (see abstract). It would have been obvious for Suzuki to project an image onto a target to be measured passively as taught by Egawa as a means for further illuminating the object to which the distance is to be measured.

6. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of U.S. Patent No. 5,196,900 to Petterson (hereinafter, "Petterson").

Suzuki does not teach the calculation of the baseline length and distance using the center of gravity technique. However, Petterson teaches the use of the center of gravity technique for determining the distance to an object in a passive rangefinder (see column 6, lines 3-8). It would have been obvious to implement the use of the center of gravity technique taught by Petterson in the passive rangefinder taught by Suzuki as a means for improving accuracy of measurements.

Allowable Subject Matter

7. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 14-20 are allowed.

9. The following is an examiner's statement of reasons for allowance:

Claim 14 is allowable because it requires "controlling one of the image generating section and the projection optical system on the basis of the inclination angle to correct for keystone distortion in the projected image." While Suzuki teaches correction of received images for distortion (see column 2, lines 35-37), he does not teach the projection of an image. Egawa teaches the projection of an image but does not teach the controlling of the projected image on the basis of a measured inclination angle. Because any attempt to combine Suzuki and Egawa would be the result of

hindsight, claims 14-20 are allowable and claims 12 and 13 would be allowable if rewritten in independent form, as stated above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakamura teaches two sets of two sensors and two lenses but does not teach angle measurement. Nakamura teaches that the device can be use for measuring distance, making focus measurements, etc. (see column 1, lines 64-65).

Kusaka teaches the use of a pair of sensors arranged perpendicularly for focus detection but not for angular measurement.

Dainis teaches the use of three sensor sets, each having one lens and one detector, for passive distance measurement.

Donaldson teaches the correction of keystone distortion in an optical measurement system.

The other art made of record has been cited to show the current state of the art as it relates to the current application.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Andrea whose telephone number is (703) 605-4245. The examiner can normally be reached on M-F 7:00-3:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BA

BA

21 September 2004


BERNARRE E. GREGORY
PRIMARY EXAMINER
A-U, 3662